TESTIMONY OF
JAMES L. CONNAUGHTON
CHAIRMAN, WHITE HOUSE COUNCIL ON ENVIRONMENTAL QUALITY

BEFORE THE UNITED STATES SENATE
COMMITTEE ON COMMERCE, SCIENCE & TRANSPORTATION
SUBCOMMITTEE ON GLOBAL CLIMATE CHANGE

THE ROLE OF SCIENCE IN THE ASIA-PACIFIC PARTNERSHIP

APRIL 5, 2006

Mr. Chairman, thank you for inviting me to testify today on the Asia-Pacific Partnership on Clean Development and Climate, announced last year and launched in January by President Bush and the leaders of Australia, China, India, Japan, and South Korea. This public-private initiative establishes an innovative collaboration for addressing the interconnected challenges of assuring economic growth and development, poverty eradication, energy security, pollution reduction, and mitigating climate change.

Shortly before the G8 meeting last year in Gleneagles, Scotland, President Bush said:

> The best way to help nations develop while limiting pollution and improving public health is to promote technologies for generating energy that are clean, affordable and secure. Some have suggested the best solution to environmental challenges and climate change is to oppose development and put the world on an energy diet. But at this moment, about two billion people have no access to any form of modern energy. Blocking that access would condemn them to permanent poverty, disease, high infant mortality, polluted water and polluted air.
>
> We're taking a better approach. In the last three years, the United States has launched a series of initiatives to help developing countries adopt new energy sources, from cleaner use of coal to hydrogen vehicles, to solar and wind power, to the production of clean-burning methane, to less-polluting power plants. And we continue to look for more opportunities to deepen our partnerships with developing nations. The whole world benefits when developing nations have the best and latest energy technologies.[1]

Over the past four years, the Bush Administration has been building the structure of a more constructive, practical and realistic approach to international action on clean development and climate change. In February 2002, the President announced a comprehensive domestic and international strategy for addressing the serious, long-term challenge of global climate change

[1] http://www.whitehouse.gov/news/releases/2005/06/20050630.html

through the development and widespread deployment of the best of current technologies and transformational new ones.[2] This strategy is producing real results.

In 2002, the President set a national goal of reducing the greenhouse gas intensity in the U.S. economy by 18 percent by 2012. We are committed to the logical steps of first slowing the growth of emissions per unit of GDP and, as the science justifies, stopping and then reversing emissions. We have established strong partnerships for action with the private sector, through programs such as the Department of Energy's Climate VISION program and the Environmental Protection Agency's Climate Leaders program. We have taken the lead internationally on transformational technology development initiatives such as the Hydrogen Fuel Initiative, which will accelerate the future of an emissions-free hydrogen transportation system, and FutureGen, a project to create the world's first coal-based zero-emissions electricity and hydrogen power plant.[3] Our wide variety of technology-based programs are being managed by the Climate Change Technology Program through the Department of Energy.

Nearly every major provision of the Energy Policy Act of 2005 is helping to advance Presidential priorities for cleaner, more efficient, and less greenhouse gas intensive energy systems, including incentives for production of wind, geothermal and solar power, consumer tax credits for highly fuel efficient hybrid and clean diesel vehicles, clean coal technology, emissions-free nuclear power, and renewable bio-fuels.

In addition to voluntary actions and incentives, the President's strategy takes advantage of new mandatory efficiency and renewable fuels standards in the energy bill. Innovative new fuel economy regulations will save 10.7 billion gallons of fuel and include, for the first time ever, the largest sport utility vehicles and Hummers.

And we are moving forward to carry out the President's State of the Union vision to break our addiction to foreign oil through new technologies and to change the way we power our homes and offices.

These new domestic programs and authorities will help us maintain the steady progress we have made in recent years toward the President's greenhouse intensity goal. **[CHARTS 1 & 2]** Between 2000 and 2004, the U.S. economy grew 9.6% while greenhouse gas emissions increased only 1.1%.[4,5] These reductions come from a combination of 1) desirable improvements in efficiency and deployment of advanced energy technologies and practices, 2) a desirable structural expansion of our economy to lower-emitting manufacturing and service industries and enterprises, 3) the undesirable economic slowdown a few years ago and 4) the undesirable shift

[2] Discussions of these various programs can be found on the following web sites:
- The White House (http://www.whitehouse.gov/news/releases/2002/02/climatechange.html)
- Department of Energy (http://www.energy.gov/environment/climatechange.htm);
- Department of State (http://usinfo.state.gov/gi/global_issues/climate_change.html)
- Department of Agriculture (http://www.ers.usda.gov/Briefing/GlobalClimate/)
- Environmental Protection Agency (http://yosemite.epa.gov/oar/globalwarming.nsf/content/Climate.html).

[3] http://www.fe.doe.gov/programs/powersystems/futuregen/

[4] http://yosemite.epa.gov/oar/globalwarming.nsf/content/ResourceCenterPublicationsGHGEmissionsUSEmissionsInventory2006.html

[5] http://www.bea.gov/bea/dn/home/gdp.htm

of higher-emitting energy intensive industries and jobs to other countries with significantly lower energy costs. This last factor is problematic enough from the standpoint of those who lost jobs. As important, it probably did not produce an actual environmental benefit, as the air pollution and greenhouse gases emissions simply shifted to the other countries along with the jobs. The President's policies are directed at accelerating the results from the first two factors, while guarding against the unsustainable or false sense of progress associated with the second two factors.

As we seek to reduce our own emissions intensity, other fast growing economies of the world have significant opportunities to substantially reduce their emissions intensity. In his June 2001 and February 2002 climate change policy speeches, President Bush highlighted the importance of international cooperation in developing an effective and efficient response to the complex and long-term challenge of climate change.[6] The international cooperation and investment that Title 16 of the Energy Policy Act of 2005 authorizes is essential to ongoing progress globally. Data collected by the Energy Information Administration reinforces the importance of continued partnership among mature and emerging economies on energy technology development and deployment. By 2010, carbon dioxide emissions from emerging economies, such as China and India, will surpass those from mature market economies like the United States.[7] **[CHART 3]**

That is why, last summer, the Administration introduced our most recent and consequential multilateral initiative, the Asia-Pacific Partnership for Clean Development and Climate. The six major nations in this partnership – Australia, China, India, Japan, South Korea, and the United States – account for about half of the world's economy, energy use, and greenhouse gas emissions. In announcing the Asia-Pacific Partnership on July 27, 2005, President Bush said:

> This new results-oriented partnership will allow our nations to develop and accelerate deployment of cleaner, more efficient energy technologies to meet national pollution reduction, energy security, and climate change concerns in ways that reduce poverty and promote economic development.

The Partnership's vision statement, which is attached, identifies a broad range of near-and long-term technologies and practices that are designed to improve energy security, reduce pollution and address the long-term challenge of climate change. The Partnership focuses on voluntary practical measures to create new investment opportunities, build local capacity, and remove barriers to the introduction of cleaner, more efficient technologies. It is important to build on mutual interests and provide incentives to tackle shared global challenges such as climate change effectively.

We are united with our partners in recognizing that the ingenuity and energy of the private sector is crucial to our success in addressing these issues over time. This effort cannot succeed without strong private sector involvement. The Departments of State, Energy, Commerce, the Environmental Protection Agency, and other agencies and financing institutions, such as the

[6] http://www.whitehouse.gov/news/releases/2001/06/20010611-2.html and http://www.whitehouse.gov/news/releases/2002/02/20020214-5.html.
[7] Energy Information Administration, International Energy Outlook, 2005.

Export-Import Bank and Asian Development Bank, are actively discussing ways of ensuring that the private sector is engaged in a meaningful way in the Partnership at every stage of its work.

This past January, I was privileged to join Energy Secretary Sam Bodman and Under Secretary of State Paula Dobriansky at the first Ministerial meeting of the Partnership in Sydney, Australia. The meeting was hosted by Australian Prime Minister John Howard and chaired by Australian Foreign Minister Alexander Downer. In addition to involving unusually high-ranking government official representation, the meeting also included a substantive dialogue with leading CEOs and heads of industrial organizations from each country representing some of the most significant, energy-intensive and emitting sectors.

The Ministerial established a Policy and Implementation Committee and its first set of Task Forces covering actions in eight areas:

- Cleaner Fossil Energy
- Renewable Energy and Distributed Generation
- Power Generation and Transmission
- Steel
- Aluminum
- Cement
- Coal Mining
- Buildings and Appliance

Each Task Force has a government chair and co-chair. **[CHART 4]** The United States will chair the Policy and Implementation Committee and chair or co-chair three of the Task Forces. Initial details about the objectives and work plans for each task force are outlined in the accompanying charts. **[CHARTS 5.1-5.8]** We anticipate each Task Force to consist of two senior government officials and two private sector leaders from each country to enable a relatively manageable planning and implementation dialogue of about 24 people per Task Force. The United States Task Force members include participants from government agencies, major companies, and non-profit organizations.

In a few weeks, the United States will host the first Task Force working meetings. The Task Forces currently vary in their level of organization and planning. The aluminum sector, for example, has already adopted a memorandum of understanding as to how they intend to proceed. This is not surprising, as this sector is already well-organized internationally and involves large multi-national companies. On the other hand, sectors such as cement and power generation are composed predominantly of domestic companies, that infrequently, if ever, have had reason to get together and share management strategies, relevant sector goals, best practices, technologies and financing arrangements. For many, the Asia-Pacific Partnership will afford the first opportunity for such hands-on, senior level exchanges.

At the first working group meetings and in the months that follow, we expect the Partners to develop a broad portfolio of shared goals and objectives. Let me outline a few of my own personal thoughts concerning the kinds of deliverables the Task Forces will explore.

A principal, operational objective of the Partnership is to identify profitable technology investment opportunities and outcomes in each partner country. While there may be discussion of "demonstration projects" related to emerging technologies in each sector, we are placing a strong emphasis on identifying opportunities for near-term outcomes that can be "mass-produced" using tried and true technologies and methods.

For example, methane capture from coal mining is a well-established and highly profitable practice in the United States that nets significant benefits in terms of worker safety, harmful pollution reduction, and mitigation of a greenhouse gas that is 20 times more potent than carbon dioxide. The potential number of such projects in several of the other partner countries is quite high. Our partner countries also have a strong interest in our substantial experience and success in improving the efficiency and capacity of our power generation. Out of such discussions should emerge a fairly concrete list of information, policy, economic, and regulatory barriers to such investment and corresponding actions to address such barriers.

To give another example, in order to comply with our new Clean Air Interstate Rule mandating about a 70 percent reduction in harmful air pollution, our power generation utilities are projected to invest about 50 billion dollars to install and operate pollution controls and efficiency improvements at existing and new plants.[8] Details of this rule and the market it will expand for current and new technologies are largely unknown to our partner countries, who may want to replicate it back home or produce innovative control technologies that can be marketed to our power sector. Similarly, according to recent reports, China has announced a commitment to improve the efficiency of its power generation by 20 percent by 2010 and to cut the sulfur-dioxide emissions from a significant portion of its power plants. This remarkably ambitious objective will create another strong market force for new investment in technologies and services.

Another opportunity is the prospect of a better, shared inventory of each country's capabilities and commitments in key sectors. For example, Japan has a highly-evolved, voluntary program of greenhouse gas mitigation goal-setting and implementation involving each of its major emitting sectors. President Bush's Climate VISION and Climate Leaders programs share common elements with the Japanese program.[9] Closer alignment and amplification of these approaches, while ensuring their relevance to each country's national circumstances, would be very valuable.

Another area of importance is the potential for further development of capacity to accurately monitor and measure performance across a number of metrics and sectors. While at different points on the continuum, each of the six countries is working aggressively to improve its ability to track improvements in efficiency, air quality and greenhouse gas emissions. Such capacity is essential to ensuring integrity, consistency, and cost-effectiveness of results.

Finally, we are working to ensure the focused and active engagement of public and private financing institutions. The operational success of this effort should be measured not by how much governments and their taxpayers spend on the effort, but on how much new private sector

[8] http://www.epa.gov/cleanairinterstaterule/
[9] http://www.climatevision.gov/

investment and financing can be unleashed and accelerated to achieve partnership security and environmental performance goals. The U.S. Department of Commerce and our Export-Import Bank are already working on business plans and trade promotion exchanges focused on Partnership priorities. And the head of the Asian Development Bank participated in the Ministerial launch of the Partnership in Australia.

The Asia-Pacific Partnership and our other international engagements on climate change center on five key ideas, all of which extend from and build on our own experience here in the United States. First, a successful international response to climate change requires developing country participation, which includes both near-term efforts to slow the growth in emissions and longer-term efforts to build capacity for future cooperative actions. Absent the participation of all major emitters, including developing countries, the goal of stabilizing GHG concentrations will remain elusive.

Second, we will make more progress on this issue over time if we recognize that climate change goals fall within a broader development agenda – one that promotes economic growth, reduces poverty, provides access to modern sanitation and clean water, enhances agricultural productivity, provides energy security, reduces pollution, *and* mitigates greenhouse gas emissions. Countries do not look at individual development goals in a vacuum, and approaches that effectively integrate both near- and longer-term goals will yield more benefits over time.

Third, technology is the glue that can bind these development objectives together. By promoting not just the development but also the wide spread commercialization and use of cleaner and more efficient technologies, we can meet a range of diverse development and climate objectives simultaneously.

Fourth, we need to pursue our international efforts in a spirit of collaboration, not coercion, and with a true sense of partnership. This is especially true in our relations with developing countries, which have an imperative to grow their economies and provide for the welfare of their citizens. Experience has shown these countries to be quite skeptical of climate mitigation approaches that they think will divert them from these fundamental goals. It is also true that many of the largest greenhouse gas emitters are also among our most significant trading partners. They have rapidly advancing – in many cases, world class – industries and considerable technical wherewithal. We view countries like China and India as responsible partners in our efforts.

Finally, we need to engage the private sector to be successful. While the right kind of government-to-government collaboration can pave the way for great progress, we will need to harness the ingenuity, resources and vision of the private sector in developing and deploying technology.

The President's FY07 budget calls for 52 million dollars to support the work of the Partnership. The request is divided among the Departments of State, Energy and Commerce, and the Environmental Protection Agency. Other agencies, such as the Departments of Transportation and Agriculture, will also be participating. The Partnership is a team effort and requires a team budget.

In addition to the Asia-Pacific Partnership, since 2001, we have established a range of partnerships that will address key aspects of the climate challenge while also advancing other important international objectives. We have established bilateral climate partnerships with 15 countries and regional organizations that, together with us, comprise some eighty percent of global greenhouse gas emissions. These partnerships serve as the umbrella for over 400 collaborative activities undertaken by U.S. agencies and their partners on science, technology and policy issues. Through these partnerships, U.S. experts are working with Australia and New Zealand to strengthen our capacity to monitor climate in the Pacific; with India to promote local-level pollution and energy solutions that will have greenhouse gas intensity benefits; with Brazil to promote effective application of renewable energy; with Japan and Korea to promote greater integration of climate and energy strategies throughout Asia; and with China to enhance technical capacity for climate-related decision-making.

In addition to our bilateral partnerships, we have initiated and participate in a range of new technology initiatives designed to meet climate and clean development goals. Let me briefly highlight a few of the most significant partnerships:

- **Group on Earth Observations[10]:** On July 31, 2003, the United States hosted 33 nations—including many developing nations—at the inaugural Earth Observation Summit (EOS), out of which came a commitment to establish an intergovernmental, comprehensive, coordinated, and sustained Earth observation system. The climate applications of the data collected by the system include the use of the data to create better climate models, to improve our knowledge of the behavior of carbon dioxide and aerosols in the atmosphere, and to develop strategies for carbon sequestration. The United States was instrumental in drafting a ten-year implementation plan for a Global Earth Observation System of Systems, which was approved by 55 nations and the European Commission at the 3rd EOS summit in Brussels in February 2005. The United States also released its contribution through the Strategic Plan for the U.S. Integrated Earth Observing System in April 2005.[11] The plan will help coordinate a wide range of environmental monitoring platforms, resources, and networks.

- **International Energy Research and Development Partnerships:** *The Generation IV Nuclear partnership,*[12] *the Carbon Sequestration Leadership Forum*[13]*, the International Partnership for the Hydrogen Economy*[14]*, and ITER*[15]. In the last four years, the Administration has engaged in four partnerships that lend new international emphasis to strategic technologies that can make a large contribution to our efforts to reduce greenhouse gas intensity and diversify the global energy portfolio. The State Department is working closely with DOE to engage our partners, and all of these partnerships include key developing countries as full partners in our efforts to advance these important technologies – an important capacity building function that will also serve to promote the growth of global markets.

[10] http://earthobservations.org/
[11] http://iwgeo.ssc.nasa.gov/docs/EOCStrategic_Plan.pdf
[12] http://www.nei.org/index.asp?catnum=3&catid=1215
[13] http://www.cslforum.org/
[14] http://www.iphe.net/
[15] http://www.iter.org/

- **The Methane to Markets Partnership**[16]**:** This partnership, launched in November of 2004, focuses on advancing cost-effective, near-term methane recovery and use as a clean energy source to enhance economic growth, promote energy security, improve the environment, and reduce greenhouse gases. At the recent session, the partnership welcomed its seventeenth member, Ecuador, and now represents over 60 percent of global methane emissions. This Partnership includes an extensive project network comprised of 190 private sector, governmental and non-governmental organizations. Methane to Markets currently targets four major methane sources: landfills, underground coal mines, and natural gas and oil systems, and animal waste management. By 2015, the Partnership has the potential to deliver annual reductions in methane emissions of up to 50 million metric tons of carbon equivalent or recovery of 500 billion cubic feet of natural gas.

- **World Summit on Sustainable Development Partnerships**[17]**:** The United States has been at the forefront of efforts to move multilateral bodies toward a practical, results-focused actions centered around partnerships among governments, businesses and other organizations. Among over 20 U.S.-initiated partnerships launched at the 2002 World Summit on Sustainable Development (WSSD) held in Johannesburg, South Africa, the United States established a "Clean Energy Initiative." The Initiative consists of four market-oriented, performance-based partnerships, including:

  - the **Global Village Energy Partnership (GVEP)**,[18] an international partnership with over 700 public and private sector partners with a leading role for the U.S. Agency for International Development;

  - the **Partnership for Clean Indoor Air**,[19] led by the Environmental Protection Agency, addressing the increased environmental health risk faced by more than 2 billion people in the developing world who burn traditional biomass fuels indoors for cooking and heating;

  - the **Partnership for Clean Fuels and Vehicles**,[20] led by the Environmental Protection Agency, which will help to reduce air pollution in developing countries by promoting the elimination of lead in gasoline and encouraging the adoption of cleaner vehicle technologies;

  - **Efficient Energy for Sustainable Development (EESD)**,[21] led by the Department of Energy, which aims to improve the productivity and efficiency of energy systems, while reducing pollution and waste, saving money and improving reliability through less energy intensive products, more energy efficient processes and production modernization.

[16] http://www.epa.gov/methanetomarkets/ and http://www.methanetomarkets.org/. Founding Methane to Markets member governments include the United States, Argentina, Australia, Brazil, China, Colombia, India, Italy, Japan, Mexico, Nigeria, Russian Federation, Ukraine, and the United Kingdom. The Republic of Korea became the 15th member in June, 2005 Canada the 16th member in July 2005, and Ecuador the 17th member in November 2005 .
[17] http://www.sdp.gov/sdp/initiative/cei/28304.htm.
[18] http://www.sdp.gov/sdp/initiative/cei/44949.htm.
[19] http://www.sdp.gov/sdp/initiative/cei/29808.htm and http://www.pciaonline.org/.
[20] http://www.sdp.gov/sdp/initiative/cei/29809.htm and http://www.unep.org/pcfv/main/main.htm.
[21] http://www.sdp.gov/sdp/initiative/cei/28304.htm.

The United States is actively involved in other international technology development and deployment partnerships as well, including the Renewable Energy and Energy Efficiency Partnership, a WSSD partnership initiated by the United Kingdom. As the world's largest producer and consumer of renewable energy, and with more renewable energy generation capacity than Germany, Denmark, Sweden, France, Italy, and the United Kingdom combined, the United States is one of 17 partner countries in REEEP.

The technology-focused approach that puts climate change in the context of broader development goals is finding favor in many parts of the world. In July, at the Group of Eight Leaders meeting at Gleneagles, President Bush and his counterparts agreed to a Plan of Action on Climate Change, Clean Energy and Sustainable Development.[22] The Plan is based on over fifty specific, practical activities, mostly focused on technology development and deployment.

The United States continues to participate in the UN Framework Convention on Climate Change. The Conference of the Parties (COP) to the United Nations Framework Convention on Climate Change held its 11th Session in Montréal from November 28 to December 9, 2005. In that context, we will continue to highlight the importance of collaborative partnerships developing and deploying technologies to meet the long-term challenge of climate change.

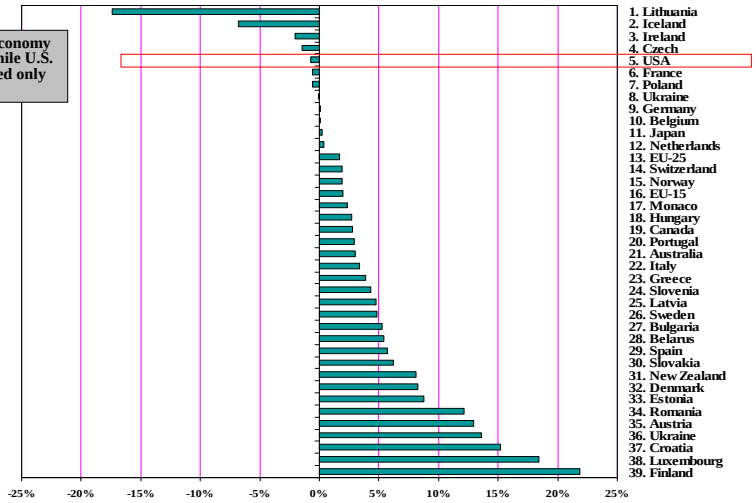
I thank you for the opportunity to testify. I look forward to responding to any questions you may have.

[22] http://usinfo.state.gov/ei/img/assets/4756/PostG8_Gleneagles_Communique.pdf

CHART 1

Trends in GHG Emissions 2000-2003

In 2004, the U.S. economy increased 4.2%, while U.S. emissions increased only 1.8%.

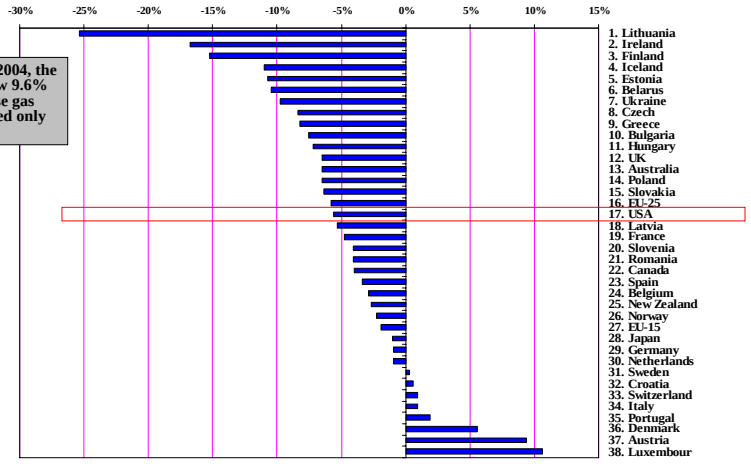


Source: 2005 National Inventory Reports and Common Reporting Formats at http://unfccc.int/national_reports/ annex_i_ghg_inventories/national_inventories_submissions/items/2761.php

CHART 2

Trends in GHG Emissions Intensity 2000-2003

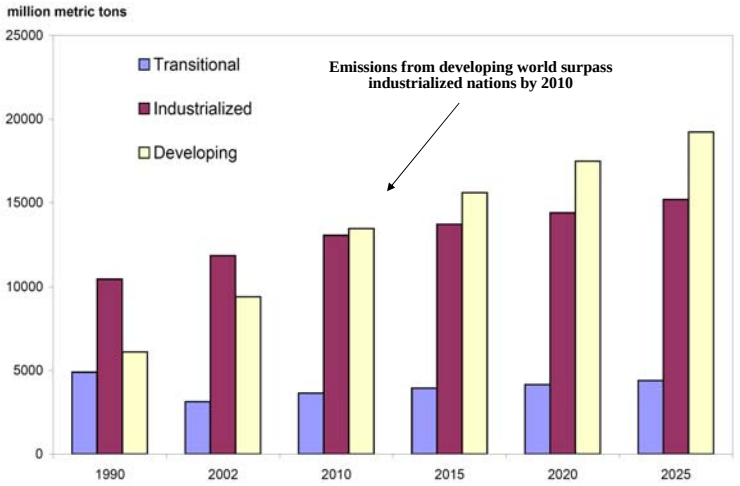
Between 2000 and 2004, the U.S. economy grew 9.6% while greenhouse gas emissions increased only 1.1%.



GDP Data: IMF World Economic Outlook, September 2005; http://www.imf.org/external/pubs/ft/weo/2005/02/data/index.htm

CHART 3

World Carbon Dioxide Emissions by Region



Source: Energy Information Administration, International Energy Outlook, 2005

Asia-Pacific Partnership on Clean Development and Climate

Organizational Chart

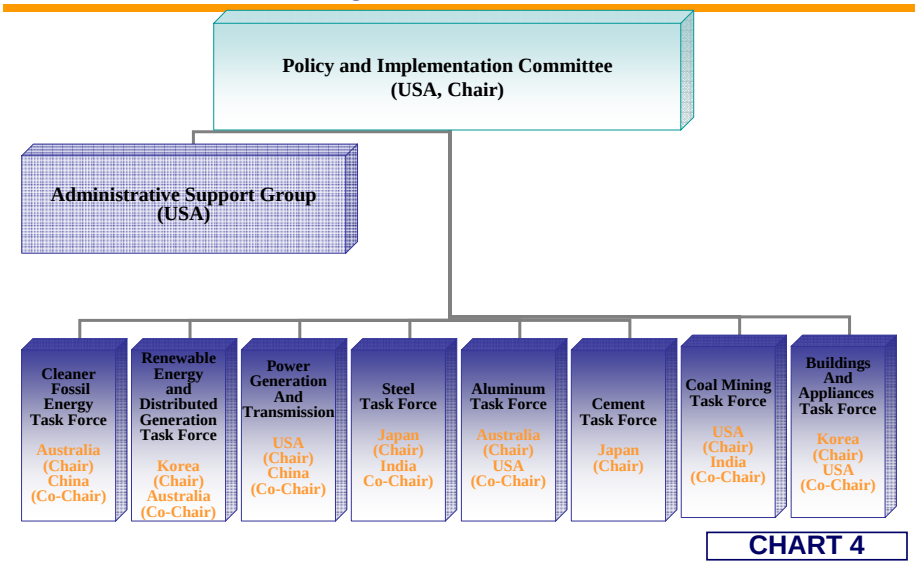


CHART 4

Asia-Pacific Partnership on Clean Development and Climate

Clean Fossil Energy Task Force Objectives

- Build on the range of existing national (and other international) measures and initiatives to develop an Asia-Pacific Partnership cleaner fossil energy technology development program.
- Identify the potential for, and encourage uptake of, CO_2 geo-sequestration opportunities in Partnership countries.
- Further develop coal bed and waste coal mine methane gas and LNG/natural gas opportunities and markets in the Asia-Pacific region.
- Build the research and development base, and the market and institutional foundations of Partners through technology supporting initiatives, such as education, training and skills transfer.

CHART 5.1

Asia-Pacific Partnership on Clean Development and Climate

Renewable Energy and Distributed Generation Objectives

- Facilitate the demonstration and deployment of renewable energy and distributed generation technologies in Partnership countries.
- Identify country development needs and the opportunities to deploy renewable energy and distributed generation technologies, systems and practices, and the enabling environments needed to support wide-spread deployment, including in rural, remote and peri-urban applications.
- Enumerate financial and engineering benefits of distributed energy systems that contribute to the Partnership's economic development and climate goals.
- Promote further collaboration between Partners on research, development and implementation of renewable energy technologies including supporting measures such as renewable resource identification, wind forecasting and energy storage technologies.
- Support cooperative projects to deploy renewable and distributed generation technologies to support rural and peri-urban economic development and poverty alleviation.
- Identify potential projects that would enable Partners to assess the applicability of renewable energy and distributed generation to their specific requirements.

CHART 5.2

Asia-Pacific Partnership on Clean Development and Climate

Power Generation and Transmission Task Force Objectives

- Assess opportunities for practical actions to develop and deploy power generation, transmission and demand side management technologies that can aid development and climate concerns.
- Facilitate demonstration and deployment of practices, technologies and processes to improve efficiency of power production and transmission within Partnership countries.
- Enhance collaboration between Partners on research and development of such technologies and processes.
- Enhance synergy with relevant objectives of other Task Forces (i.e. Cleaner Fossil Energy, Renewable Energy and Distributed Generation and Buildings and Appliances).
- Identify potential projects that would enable Partner countries to assess the applicability of energy feedstocks to their specific requirements.
- Identify opportunities to enhance investment in efficient power supply by improving energy markets and investment climate.

CHART 5.3

Asia-Pacific Partnership on Clean Development and Climate

Steel Task Force Objectives

- Develop sector relevant benchmark and performance indicators.
- Facilitate the deployment of best-practice steel technologies.
- Increase collaboration between relevant Partnership country government, research and industry steel-related institutions.
- Develop processes to reduce energy usage, air pollution and GHG emissions from steel production.
- Increase recycling across the Partnership.

CHART 5.4

Asia-Pacific Partnership on Clean Development and Climate

Aluminum Task Force Objectives

- Enhance current production processes of aluminum through uptake of best-practice use of existing equipment.
- Advance the development and deployment of new best practice aluminum production process and technologies across Partnership economies.
- Enhance sector-related data, including recycling and performance.
- Facilitate increased aluminum recycling rates across the Partnership.

CHART 5.5

Asia-Pacific Partnership on Clean Development and Climate

Cement Task Force Objectives

- Facilitate demonstration and deployment of energy-efficient and cleaner product formulation technologies in Partnership countries that will significantly improve the GHG emissions intensity and the air pollutant emissions intensity of cement operations.
- Develop sector relevant benchmark and performance indicators.
- Take advantage of opportunities to build infrastructure in developing countries and emerging economies that uses energy efficient cement and concrete building and paving materials.

CHART 5.6

Asia-Pacific Partnership on Clean Development and Climate

Coal Mining Task Force Objectives

- Facilitate technologies and practices that can improve the economics and efficiencies of mining and processing and continue to improve safety and reduce environmental impacts.
- Establish, as appropriate, efficiency and emissions intensity and mine reclamation objectives based on each nation's circumstances.
- Identify current reclamation activities in each country, as appropriate, and exchange best practice information in reclamation of surface mined lands with a focus on enhanced surface reclamation practices that improve the opportunities for carbon sequestration.

CHART 5.7

Asia-Pacific Partnership on Clean Development and Climate

Building and Appliances Task Force Objectives

- Use cooperative mechanisms to support the further uptake of increasingly more energy efficient appliances, recognizing that extensive cooperative action is already occurring between Partner countries.
- Promote best-practice and demonstrate technologies and building design principles to increase energy efficiency in building materials and in new and existing buildings.
- Support the integration of appropriate mechanisms to increase the uptake of energy efficient buildings and appliances into broader national efforts that support sustainable development, increase energy security and reduce environmental impacts.
- Systematically identify and respond to the range of barriers that limit the implementation of end-use energy-efficiency practices and technologies.

CHART 5.8